The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GUY L. STEELE, JR.

Appeal 2007-2219
Application 10/035,587
Technology Center 2100

Decided: September 13, 2007

Before HOWARD B. BLANKENSHIP, ALLEN R. MACDONALD, and COURTENAY, ST. JOHN, III, *Administrative Patent Judges*.

MACDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-3 and 5-47. We have jurisdiction under 35 U.S.C. § 6(b).

Appellant invented systems and methods for accumulating floating point status information associated with a plurality of floating point values. (Specification [002]).

Representative independent claim 1 under appeal reads as follows:

1. A flag combining circuit, comprising:

an analysis circuit that receives a plurality of operands each of which having encoded status flag information, the analysis circuit being operative to analyze the plurality of operands and to provide an indication of one or more predetermined formats in which the plurality of operands are represented; and

a result assembler that receives the indication from the analysis circuit and assembles an accumulated result that represents a value and combines the encoded status flag information from each of the plurality of operands.

The Examiner rejected claims 1-3 and 5-47 under 35 U.S.C. § 102(b).

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Huang US 5,995,991 Nov. 30, 1999

The Examiner also rejected claims 1-3 and 5-47 under 35 U.S.C. § 103(a).

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Lynch US 6,009,511 Dec. 28, 1999

Appellant contends that the claimed subject matter is not disclosed in the prior art. More specifically, Appellant contends Huang fails to disclose an embedded status because the tag of Huang is separate from the operand. (Reply Br. 5-9).

The Examiner contends that in Huang the "resulting status 'tag value' [is] embedded within the 'resulting floating point operand.'" (Answer 14).

Further, Appellant contends that the claimed subject matter would not have been obvious. Appellant contends Lynch fails to disclose an embedded status because the tag of Lynch is separate from the operand, and Appellant contends there is no motivation to modify Lynch to yield the claimed invention. (Br. 14-20).

The Examiner contends that it would have been obvious to store the "result with its tag as a resulting operand" to quickly determine its status. (Answer 7).

We reverse.

ISSUE(S)

Has Appellant shown that the Examiner has failed to establish Huang describes "a plurality of operands each of which having encoded status flag information" and a result assembler that "assembles an accumulated result that represents a value and combines the encoded status flag information from each of the plurality of operands" as required by claim 1?

Has Appellant shown that the Examiner has failed to establish Lynch suggests "a plurality of operands each of which having encoded status flag information" and a result assembler that "assembles an accumulated result that represents a value and combines the encoded status flag information from each of the plurality of operands" as required by claim 1?

FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

1. The prior art Huang patent describes that "If the generation of the result produces one of a predetermined set of special operands, a tag generator also generates a tag having a predetermined tag value corresponding to the produced special operand." (Col. 5, ll. 43-46).

2. The prior art Huang patent describes that "each of the registers 116 and 118 has an operand value storage portion 116-1 and 118-1 and a tag value storage portion 116-2 and 118-2." (Col. 6, l. 66 through col. 7, l. 2).

3. The prior art Lynch patent describes that the "FPU [floating point unit] core uses the tag value associated with an operand to determine whether the operand is a special floating point number." (Col. 16, ll. 62-65).

4. "Assembles" is defined as "fits or joins together the parts of."[1]

5. "Having" is defined as "containing as a constituent part."[2]

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[1] The American Heritage Dictionary, Second College Edition, 1982, p. 134.
[2] *Id.* at p. 597.

PRINCIPLES OF LAW

On appeal, Appellant bears the burden of showing that the Examiner has not established a legally sufficient basis for anticipation based on the Huang patent.

Appellant may sustain this burden by showing that the prior art reference relied upon by the Examiner fails to disclose an element of the claim. It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S. Ct. at 1734, 82 USPQ2d at 1391 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

"[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR.*, 127 S. Ct. at 1741, 82 USPQ2d at 1396 (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

ANALYSIS

Claim Interpretation

Claim 1 recites "a plurality of operands each of which having encoded status flag information" and a result assembler that "assembles an accumulated result that represents a value and combines the encoded status flag information from each of the plurality of operands." We interpret claim 1 as requiring: 1) a plurality of operands each of which "containing" encoded status flag information, and 2) a result assembler that "joins together the parts" of an accumulated result that represents a value and combines the encoded status flag information. We construe claim 1 as requiring a single result that contains distinct parts that are joined together to form the result and which parts represent a value and encoded status information.

35 U.S.C. § 102

Appellant correctly points out the Examiner did not state a legally sufficient basis for the rejection because Huang does not assemble an accumulated result that represents a value and combines the encoded status flag information from each of the plurality of operands. Contrary to the Examiner's contention (Answer 14), Huang's "tag value" does not

"constitute a teaching [of] data within the floating point **operand** as claimed." Rather, Huang discloses that the tag (status info) stands separate from the operand (result). (FF 1 and 2). The Examiner has not provided an appropriate showing that the prior art Huang patent discloses assembling an accumulated result that represents a value (data) and combines an encoded status flag as required by claim 1.

On the record before us, it follows that the Examiner erred in rejecting claim 1 under § 102(b). Since claims 2-3 and 5-47 are analogous or narrower than claim 1, it also follows that those claims were not properly rejected under § 102(b) over Huang.

35 U.S.C. § 103

Also, Appellant correctly points out the Examiner did not state a legally sufficient basis for the rejection based on Lynch, as no evidence had been provided to show that it was known to a person skilled in the art that storing the result with its tag as a resulting operand results in quickly determining its status. The Examiner has not provided an appropriate articulated reasoning for modifying Lynch.

On the record before us, it follows that the Examiner erred in rejecting claim 1 under § 103(a). Since claims 2-3 and 5-47 are analogous or narrower than claim 1, it also follows that those claims were not properly rejected under § 103(a) over Lynch.

CONCLUSION OF LAW

(1) Appellant has established that the Examiner erred in rejecting claims 1-3 and 5-47 as being unpatentable under 35 U.S.C. § 102(b) over Huang.

(2) Appellant has established that the Examiner erred in rejecting claims 1-3 and 5-47 as being unpatentable under 35 U.S.C. § 103(a) over Lynch.

(3) On this record, claims 1-3 and 5-47 have not been shown to be unpatentable.

DECISION

The Examiner's rejection of claims 1-3 and 5-47 is Reversed.

REVERSED

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